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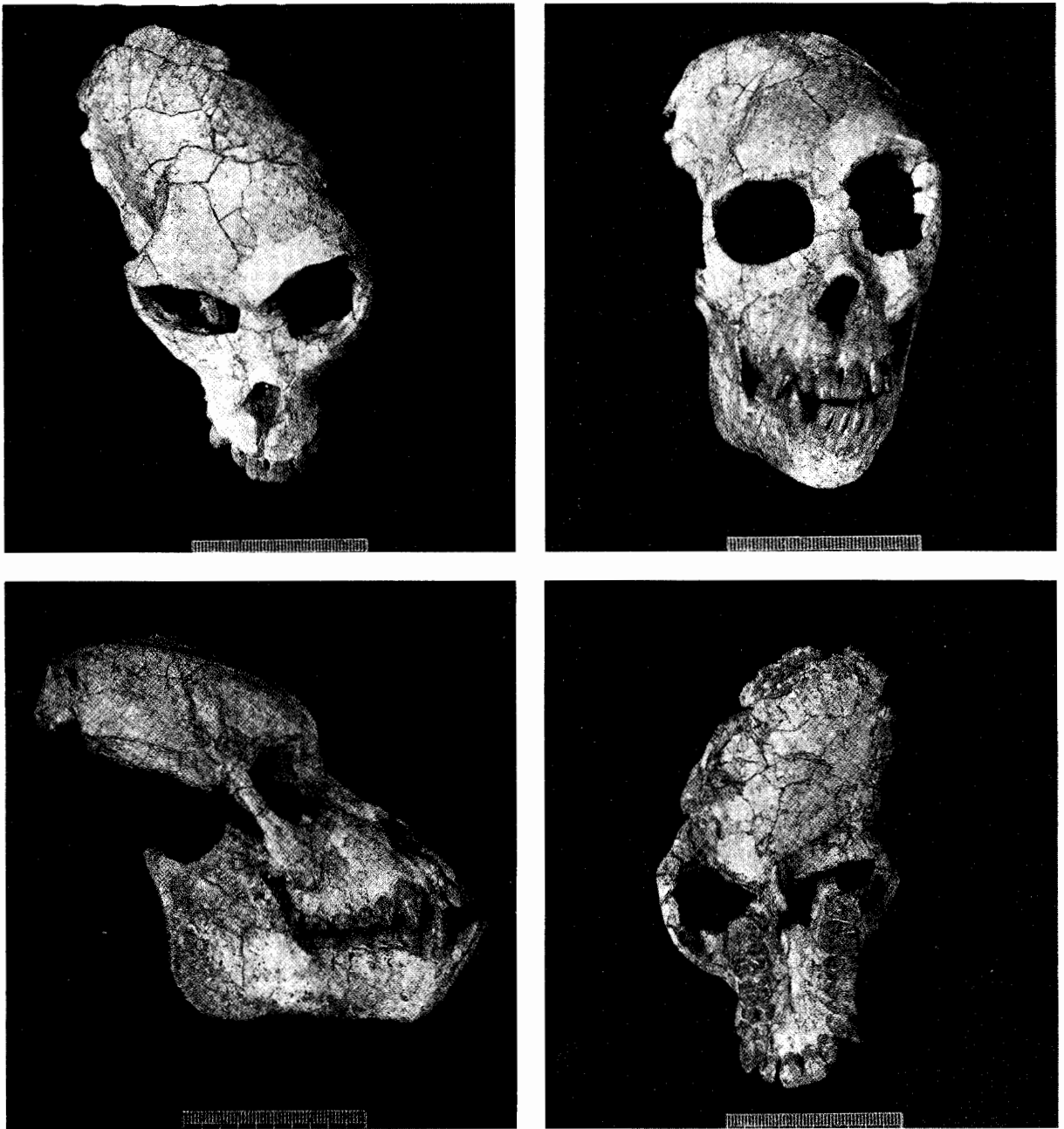
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Proconsulidae

Family of Early Miocene (and latest Oligocene) hominoids definitively known as yet only from East Africa. The earliest-known radiation of hominoid primates occurred at this time, with a number of closely related species and genera, of which *Proconsul* is the best known. This group produced the highest diversity of hominoids ever achieved at one place and time.

Four or five species are now assigned to the genus *Proconsul*, from such sites as Meswa Bridge, Rusinga Island, Songhor, and Koru (Kenya). The best known of these is *P. heseloni*, from Rusinga (18–17 Ma) and perhaps Fort Ternan (14 Ma), represented by two partial crania, six partial skeletons, and dozens of jaws. Estimates from postcranial elements suggest a body weight of ca. 11 kg (range 8–14 kg, probably reflecting sex dimorphism) for this species, but a somewhat higher value (average 17 kg, range 13–19 kg) has been obtained from dental elements; this has led to the suggestion that *P. heseloni* was somewhat megadont (i.e., had large teeth for its body size, which was comparable to that of a siamang). This form was long termed *P. africanus*, but that species from Koru and Songhor is now seen to differ from the Rusinga population in a number of dental proportions, which led to the latter being given a new name.

Proconsul nyanzae, also from Rusinga, is a larger species known from dentitions, a midface, and less complete skeletal remains. Estimates from postcrania suggest an average body weight of ca. 36 kg (range 26–46 kg), comparable to the size of the smallest chimpanzee varieties. On the other hand, dental estimates indicate lower values, between 22 and 35 kg, suggesting the microdont condition, opposite to that found in *P. heseloni*. Even larger and less well known is *P. major*, from Napak (Uganda), Songhor, and the Koru sites (apparently never found in association with either *P. nyanzae* or



Four views of the Early Miocene *Proconsul heseloni* skull found by M.D. Leakey in 1948 on Rusinga Island (Kenya). This is still one of the most complete specimens of a fossil (non-hominin) hominoid ever found. Courtesy of Peter Andrews.

P. heseloni, but only with *P. africanus*). *P. major* postcrania yield weight estimates of 63–87 kg, in the range of male chimpanzees, orangutans, and gorillas but presumably representing both male and female fossils. Again, this species appears microdont, with dental estimates of body weight only in the 33–62-kg range. Another large form, as yet (1999) unnamed, is known from the earliest Miocene primate site, Meswa Bridge, where it is represented by teeth and a partial juvenile face.

Proconsul species are characterized by a mosaic of morphological features placing them clearly between the archaic catarrhines such as *Propliopithecus* and *Pliopithecus* on the one hand, and modern (or later Miocene) hominoids on the

other. In fact, there is some argument as to whether they should be included in Hominoidea or placed with the “*Dendropithecus*-group” before the hominoid-cercopithecoid divergence. The former course is followed here because *Proconsul* specimens present such derived characters as expanded skulls, reduced heteromorphy of the premolars, rounded and enlarged humeral heads, and the hominoid adaptations for stability of the joints (although not the ones for mobility). Their upper molar teeth have large lingual cingulae and are relatively wide, the lowers have strong buccal cingulids, and all show thin to moderately thick enamel. The palate connects directly to the nasal floor, as in gibbons or monkeys, and the face is slightly airorhynch (relatively uptilted), but

not as much as in pongines. The postcrania indicate a mainly branch-walking adaptation, and it has been argued that they had lost the external tail, another feature that would link *Proconsul* to hominoids. This genus is especially important because it appears to document an early stage in hominoid evolution, allowing tests of alternative hypotheses of adaptation and mosaic evolution near the origin of this group.

Proconsul was long thought to have been the oldest recognized hominoid, but the early 1990s redating of the Lothidok (Kenya) site to ca. 26 Ma revealed that its primate specimens were of latest Oligocene age. New fossils combined with those previously described document the presence of a species named *Kamoyapithecus hamiltoni*, which is generally similar to *Proconsul* but differs in dental details. It has rather wide molar crowns with large (but not crenulated) lingual and partial buccal cingulum; reduced distal cusps on M³; M² slightly larger than M³, both larger than M¹; ovoid P⁴; probably thin enamel; and very robust canines (lowers also). The describers noted potential similarities to *Afropithecus* and distinctions from *Proconsul*, but it seems most likely to be a proconsulid rather than a hominid. Originally, this species was linked with *Xenopithecus koruensis*, a name proposed for a maxilla from Koru (Kenya) on the basis of minor differences in the upper molars from *Proconsul*. The larger species from Lothidok was later described as *Proconsul (Xenopithecus) hamiltoni*. The molars on these specimens shared the same bunodont, bilaterally expanded crowns with massive development of the lingual cingulum, but otherwise there is little reason to link them. *Xenopithecus koruensis* has been returned to synonymy with *Proconsul africanus*.

Also once described as subgenera of *Proconsul*, but now generally considered separate genera, are *Rangwapithecus*, with only one species, and the closely related *Nyanzapithecus*, with two. These are from the same sites as *Proconsul* and may best be placed in the family Proconsulidae however, it has been suggested that they might be related to *Oreopithecus*, now considered a hominid, in part because of their relatively elongate upper molars. *Limnopithecus*, often linked closely to *Dendropithecus* and its possible allies, may also be better placed in Proconsulidae, on the basis of its incisor and premolar morphology. If so, it would be the smallest proconsulid and one of the longest-lived, extending from Bukwa (Uganda, ca. 22 Ma) through the main Koru/Songhor/Napak/Rusinga sites possibly to Maboko Island (Kenya, ca. 15 Ma).

Proconsulid species ranged in body size from smaller than gibbons to the size of female gorillas. They thus span the size range of living apes. They were generalized arboreal primates, eating mainly fruit and living in tropical woodlands and forests with equable and nonseasonal climates. Some of the larger species may have been partly terrestrial, and some varied their diet with more leaves, but they lacked the extremes of adaptation seen in the living monkeys and apes. They survived in Africa until the Middle Miocene (15–14 Ma), giving way to apes that had thickened molar enamel and other dental specializations, the Hominidae.

†*Proconsul*
 †*Kamoyapithecus*
 ?†*Rangwapithecus*
 ?†*Nyanzapithecus*
 ?†*Limnopithecus*

†extinct

See also Africa; Africa, East; Africa, Southern; Ape; "Dendropithecus-Group"; Diet; Fort Ternan; Hominidae; Hominoidea; Koru; Lothidok Site; Miocene; Napak; Oreopithecus; Ponginae; Primates; Rusinga; Skull; Songhor. [P.A., E.D.]

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